Winterhalter under counter dishwashing machines
UC Series

Repair manual

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Introduction

The machines of the UC Series are no longer distinguished by their intended use but by their size.

The machine name is derived from the size:
UC-S replacing GS 202, 402
UC-M replacing GS 215
UC-L replacing GS 302, GS 310
UC-XL replacing GS 315

IMPORTANT: A machine of the UC Series can be used as glass, dishes, bistro or cutlery washing machine in any size.
The programming is carried out at the first start-up and can be changed anytime.
Alternatively, the machines are already programmed at the factory but can be re-programmed on site.

Main dimensions of the 4 machines

	UC-S	UC-M	UC-L	UC-XL
Height [1]	725-760	725-760	820-855	820-855
Width	460	600	600	600
Depth	603	603	603	637
Passage height	309	309	404	404
Rack size[2]	400x400	500x500	500x500	500x500 500x540

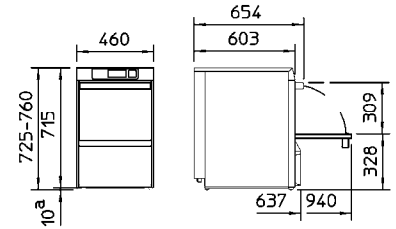
Dimensions in mm

[1] In the machines with integrated exhaust air heat recovery (Energy) the dimension of the height increases by 85 mm

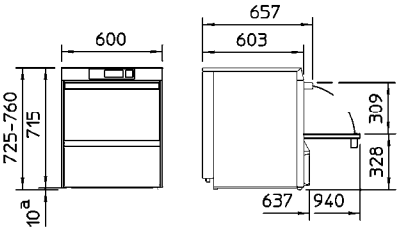
[2] Racks are not contained in the basic equipment of the machine

Drawings

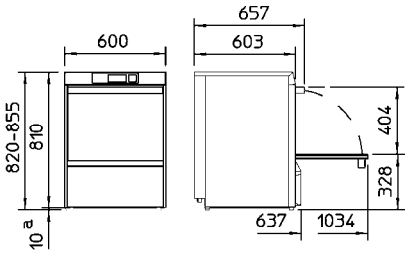
UC-S



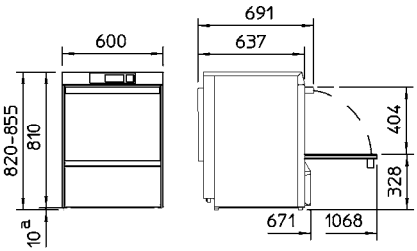
UC-M



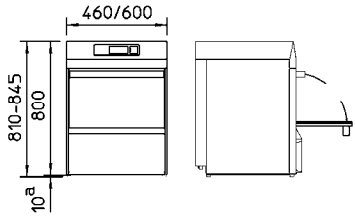
UC-L



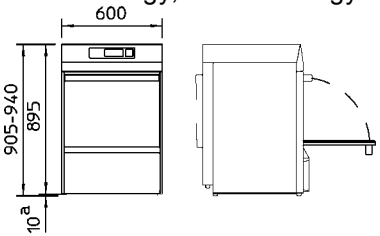
UC-XL



UC-S Energy / UC-M Energy

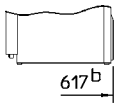


UC-L Energy; UC-XL Energy

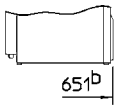


[a] By removing the feet the machine height is reduced by 10 mm.

UC-S; UC-M; UC-L



UC-XL



[b] Without integrated containers for detergent and rinse aid the depth of all machines is reduced by 20 mm

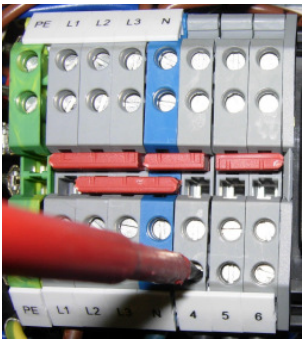
Rotary or alternating current?

The machine can be connected both to rotary and alternating current. If the machine is put to another location, the design of rotary or alternating current can be changed anytime.

On site (at the customer's site) the following operations must be carried out:

1. Switching the boiler heating element
   (▶ page 3)
2. Install and connect the appropriate mains connection cable
   (▶ page 4)
3. Connection to the supply and return system on site (water, wastewater, current); according to the operating instructions
4. Adjust parameter P555 (locking device)
   (▶ page 4)

Switching the boiler heating element



The performance of the boiler heating element is determined by the switching of bridges.
The switching of the bridges must match the electrical supply and the fusing.
The bridges are located in the plinth of the machine.
Please see the connection scheme on the back of the stiffener wall to the electric installation compartment how the bridges must be switched.

Install and connect the mains connection cable

Requirements to the mains connection cable

1. Use a cable of the type H07 RN-F or equivalent
2. Section and number of wires appropriate for voltage, fusing and overall connection value

Strain relief

UC-M, UC-L, UC-XL
Tighten the screwed cable connection in the electric installation compartment

UC-S
Tighten the screwed cable connection at the backside of the machine

Adjust parameter P555

See the connection scheme on the back of the stiffener wall to the electric installation compartment which value must be set for parameter P555.

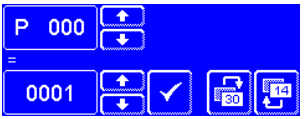
Setting range:	0, 1, 2 or 3
Setting 0:	no locking
Setting 1:	Boiler heating element locks against tank heating element
Setting 2:	Circulating pump or boiler heating element locked against tank heating element
Setting 3:	Circulating pump and boiler heating element locked against tank heating element

Menu-driven first start-up

Shortened version
The detailed description can be found in the commissioning regulation of the UC Series.

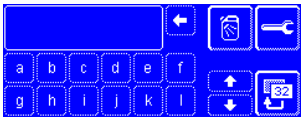
Select language

Enter PIN 1925

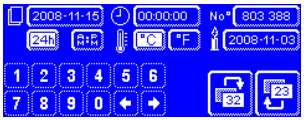


Save the basic parameter set P 000 = x

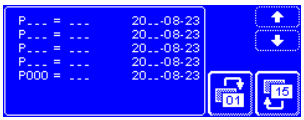
			Basic parameter set P 000	
Mains network	dishes	rinse process	UC-M, -L, -XL	UC-S
3N~; 3(N)~; 3~	Dishes	Standard	0001	0030
	Glass	Standard	0006	0035
		ReTemp	0007	0036
		Cool	0008	0037
	dishes and glass (Bistro)	Standard	0011	0040
	Cutlery	Standard	0013	0042
1N~	Dishes	Standard	0015	0044
	Glass	Standard	0020	0049
		ReTemp	0021	0050
		Cool	0022	0051
	dishes and glass (Bistro)	Standard	0025	0054



Save addresses for service and chemicals



Enter date of day, time and date of first start-up



Summary of the changed parameters

Switch on the machine

Repair instructions

Exchange collector ----------page 8
Exchange boiler heating element ----------page 14
Exchange boiler ----------page 16
Exchange the pressure transmitter of the boiler----------page 18
Exchange tank heating element----------page 20
Exchange pump head (dosing device Fluidos) ----------page 22
Exchange dosing device Fluidos----------page 24
Exchange integrated water softener ----------page 26
Exchange heat exchanger / radial fan ----------page 30

The repair instructions are described for machines with integrated chemical containers for detergent and rinse aid.

Safety notes

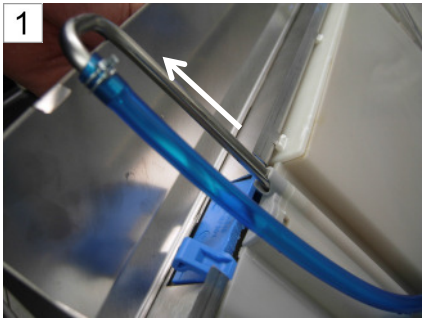
Danger

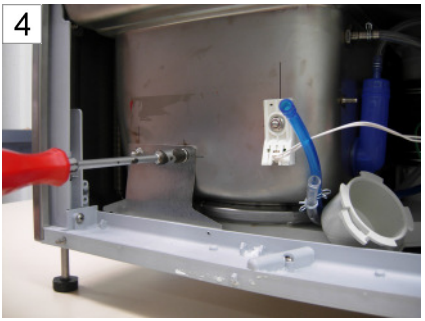
DANGER! Danger of life due to components that are energised!
Disconnect the machine during all electrical work from the mains and check if it is free of voltage.

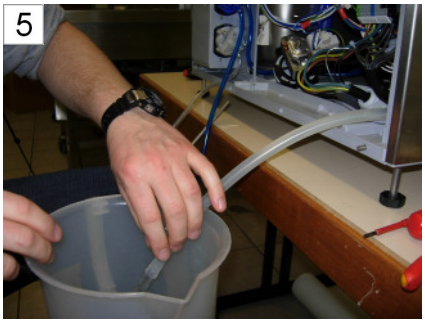
Warning

When handling chemicals, observe the safety notes and dosing recommendations printed on the packing.
Wear protective clothing, protective gloves and goggles when handling chemicals.

Exchange collector







Procedures

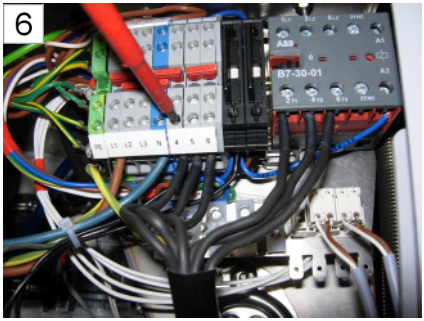
Required material:	Kit collector Item no. 30 000 169
Tool:	no special tool required
Important note:	The machine must be de-installed and put onto the left side
Note for UC-S	The procedures also apply for the UC-S. However, it is not required to de-install the boiler

Observe the safety notes on page 7

- [ ] Remove the front panel
- [ ] 1 Pull the suction pipes out of the chemical containers
- [ ] Put the suction pipes into a measuring cup with water
- [ ] Successively activate the dosing devices in the actor programme in order to rinse them with water
- [ ] Drain the tank
- [ ] Switch the machine free of voltage
- [ ] Open the machine door
- [ ] Remove lower rotating wash field, strainer and filter bottom
- [ ] Dry tank with a sponge cloth
- [ ] De-install the machine
- [ ] Remove the right side panel
- [ ] 2 Remove the right stiffener wall
- [ ] Pull off the pressure hoses off the dosing devices
- [ ] 3 Remove the left stiffener wall together with the dosing devices
- [ ] Unplug and de-install the drain pump
- [ ] 4 Remove reinforcing brackets
- [ ] 5 Completely drain boiler

Exchange collector (continuation)

6



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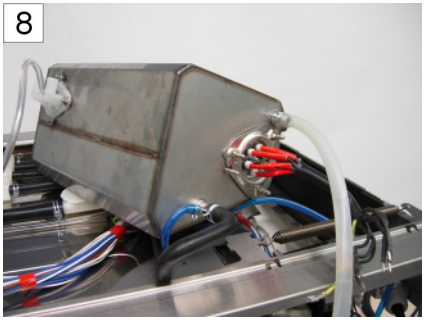

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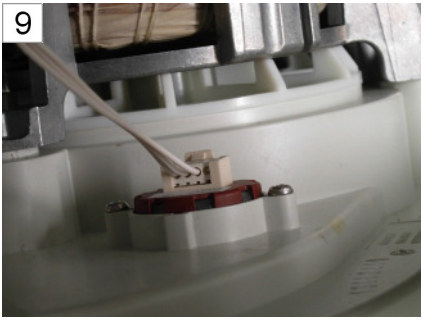

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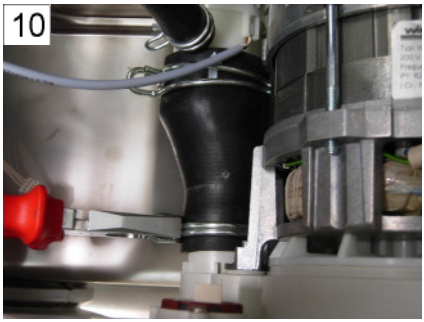


11

Procedures (continuation)

6 Disconnect boiler heating element

7 Remove the hose at the back of the boiler

Pull off the thermo sensor that is located on the boiler

Put the machine onto the left side

Remove the base cover

Pull off the two black hoses on the air chamber (air trap) of the boiler

8 Put the boiler onto the machine

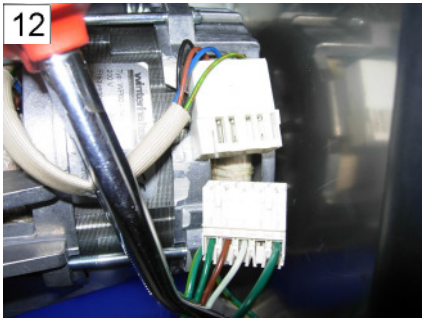
9 Unplug the diffusion sensor

10 Move the wire hose clip that is located at the hose of the lower distributor upwards

11 On the collector, pull off the hose that leads to the Mediamat

Exchange collector (continuation)

12



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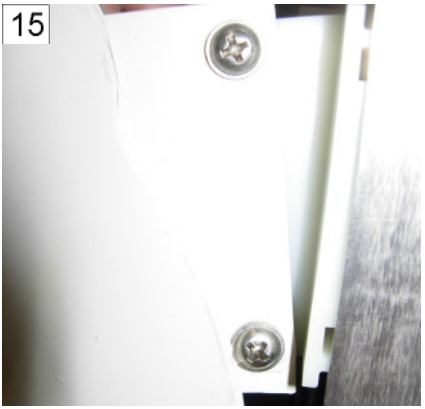

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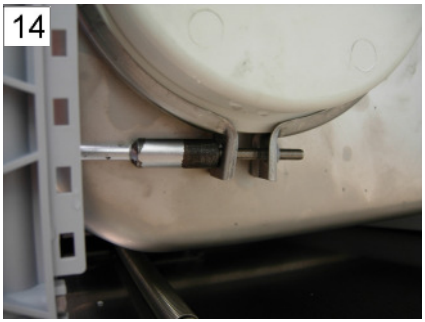

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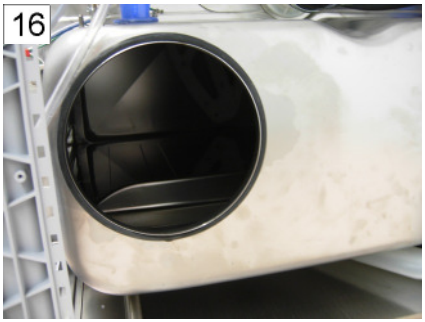


Procedures (continuation)

- [12] Unplug the circulating pump
- [13] Pull off the waste water hose that is connected to the upper distributor
- [14] Loosen clamp at the collector; do not remove it
- [15] Unscrew the collector and take it out
- [ ] Disconnect the circulating pump of the collector
- [16] Attach a new o-ring seal

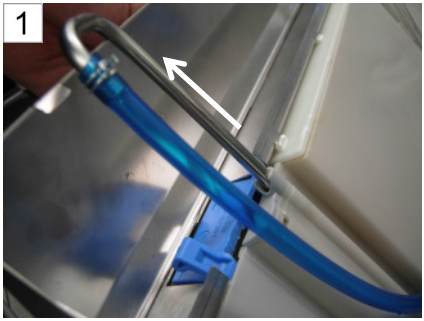
Installation of the new collector

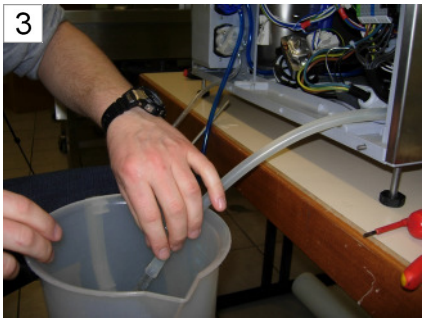
The installation is carried out in reverse order. At the same time a new pump wheel is to be installed. The pump wheel has a left-handed thread.

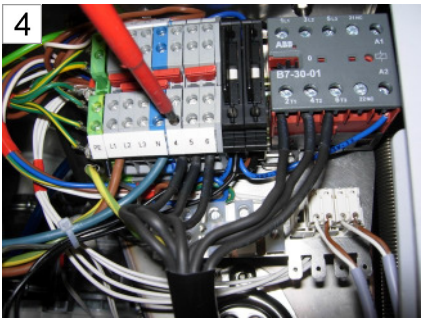
After the assembly:

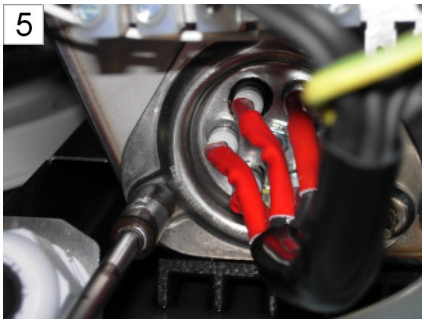
- [ ] Carry out a function test
- [ ] Ventilate the dosing devices
- [ ] Carry out a safety test according to VDE 0701

Exchange boiler heating element









Procedures

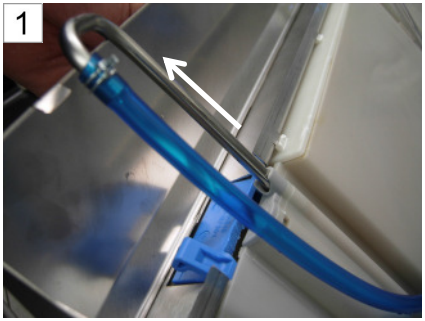
Required material:	Kit heating element 4.9KW with fuse Item no. Kit heating element 6.5KW with fuse item no. 30 000 124 (Japan, Australia)
Tool:	no special tool required
Note for UC-S	The following manual applies for the UC-M; -L; -XL. In models of the UC-S Series the boiler is located behind the rear panel and can be accessed easily

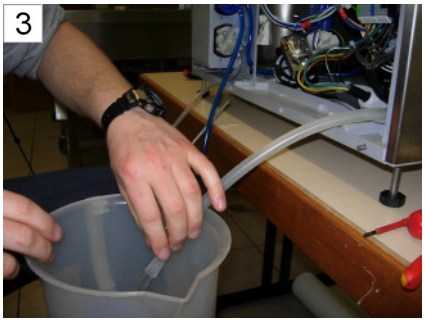
Observe the safety notes on page 7

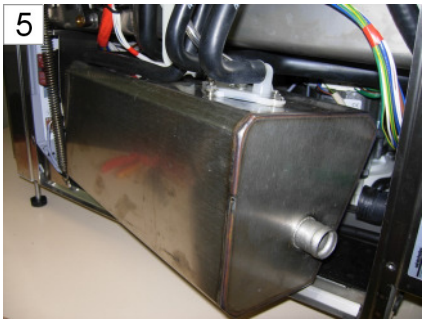
UC-M, UC-L, UC-XL

- [ ] Remove the front panel
- [1] Pull the suction pipes out of the chemical containers
- [2] Remove the right stiffener wall
- [3] Completely drain boiler
- [4] Disconnect the main power cable of the boiler heating element
- [5] Unscrew 3 hexagonal nuts
- [ ] Pull out the boiler heating element
- [ ] If necessary, clean boiler on the inside
- [ ] Replace the existing o-ring seal by a new one
- [ ] Install the new boiler heating element
- [4] Connect the main power cable
  Wires 1-3 connected to the gate at 2, 4, 6
  Wires 4-6 connected to the clips X1-4, -5, -6
  green-yellow wire connected to a grounding clip
- [ ] Install the stiffener wall
- [ ] Put the suction pipes into the chemical containers
- [ ] Install the front panel
- [ ] Carry out a function test
- [ ] Ventilate the dosing devices
- [ ] Carry out a safety test according to VDE 0701

Exchange boiler







Procedures

Required material:	Kit boiler UC-S: Item no. 30 000 119 UC-M; -L; -XL Item no. 30 000 120
Tool:	no special tool required
Important note:	The machine must be de-installed

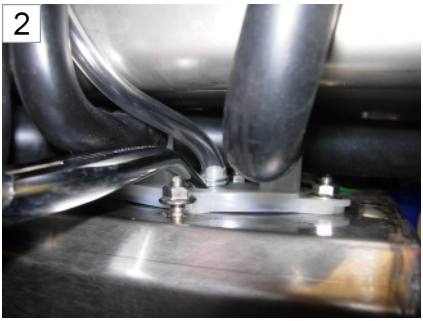
The following manual applies for the UC-M; -L; -XL. In models of the UC-S Series the boiler is located behind the rear panel and is well accessible.

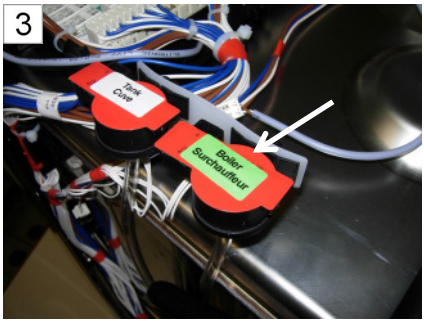
Observe the safety notes on page 7

- [ ] Remove the right side panel
- [ ] Remove the front panel
- [ ] 1 Pull the suction pipes out of the chemical containers
- [ ] 2 Remove the right stiffener wall
- [ ] 3 Completely drain boiler
- [ ] 4 Remove the hose at the back of the boiler
- [ ] Pull off the thermo sensor that is located on the boiler
- [ ] 5 Unscrew the boiler
- [ ] Remove the hoses at the top and front of the boiler
- [ ] Unscrew the heating element
- [ ] Do not disconnect the heating element
- [ ] Pull out the old boiler and install the new one
- [ ] Use a new o-ring seal
- [ ] Again tighten the heating element
- [ ] Again fix the hoses
- [ ] Install the stiffener wall
- [ ] Put the suction pipes into the chemical containers
- [ ] Install the front panel
- [ ] Carry out a function test
- [ ] Ventilate the dosing devices
- [ ] Carry out a safety test according to VDE 0701

Exchange the pressure transmitter of the boiler

The following manual applies for the UC-M; -L; -XL. In models of the UC-S Series the boiler is located behind the rear panel and is well accessible.





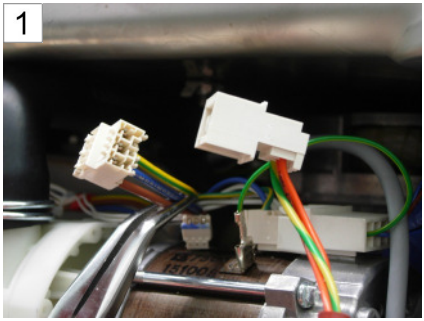
Procedures

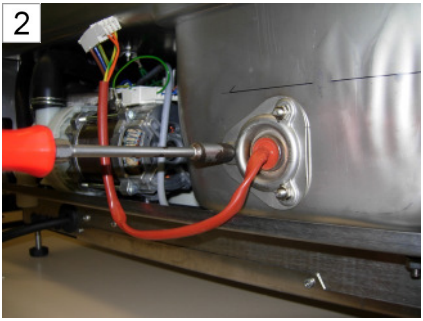
Required material: Pressure transmitter
Item no. 31 24 044
Tool: no special tool required

Observe the safety notes on page 7

- [ ] Remove the right side panel
- [ ] Pull forward the upper cover plate
- [ ] 1 Pull off the bus cable that is attached to the Master
- [ ] Pull off the grounding cable; remove the cover plate
- [ ] 2 Pull off the transparent hose at the air chamber (air trap)
- [ ] 3 De-install the pressure transmitter of the boiler (green sticker) with hose
- [ ] Install new pressure transmitter with new hose
- [ ] Mark the new pressure transmitter with a waterproof pen so that it is different from the pressure transmitter of the tank
- [ ] Install the cover plate
- [ ] Plug the bus cable into the Master
- [ ] Plug the grounding cable
- [ ] Install the right side panel
- [ ] Carry out a function test
- [ ] Carry out a safety test according to VDE 0701

Exchange tank heating element





Procedures

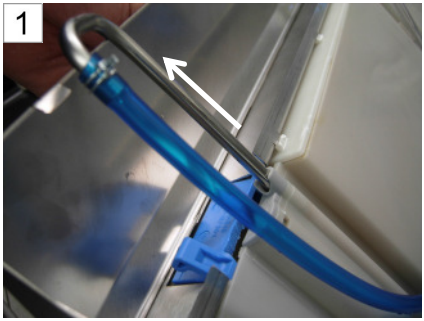
Required material: Kit high power heating cartridge 1.8KW
Item no. 30 000 122
Kit high power heating cartridge 2.5KW
Item no. 30 000 123 (Cool)

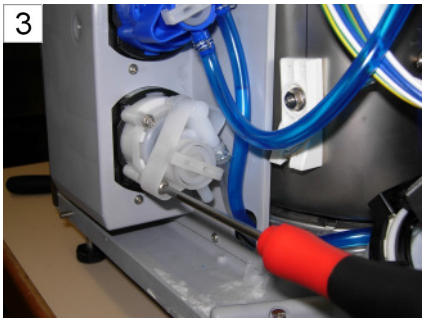
Tool: no special tool required

Observe the safety notes on page 7

- [ ] Drain the tank
- [ ] Remove the rear panel
- [1] Unplug the cable of the tank heating element
- [2] De-install the tank heating element
- [ ] Install tank heating element with new o-ring seal
- [ ] Plug the cable of the tank heating element
- [ ] Install the rear panel
- [ ] Carry out a function test
- [ ] Carry out a safety test according to VDE 0701

Exchange pump head (dosing device Fluidos)





Procedures

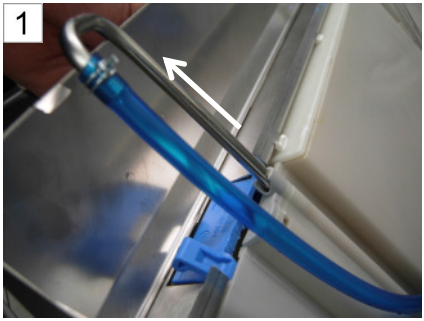
Required material:	Pump head for Fluidos DT (detergent) Item no. 31 02 599 Pump head for Fluidos DT (rinse aid) Item no. 31 02 600
Tool:	no special tool required

The following steps refer to the detergent dosing device Fluidos DT. However, they also apply for repairs at the rinse aid dosing device Fluidos DB.

Observe the safety notes on page 7

- ☐ Remove the front panel
- ☐ 1 Pull the suction pipes out of the chemical containers
- ☐ Put the suction pipes into a measuring cup with water
- ☐ Activate the dosing device in the actor programme in order to rinse it with water
- ☐ 2 Remove the right stiffener wall
- ☐ Pull off suction and pressure hose at the dosing device
- ☐ 3 Unscrew 4 screws (Torx T15)
- ☐ Rotate the pump head anti-clockwise by 90° and take it off
- ☐ Install new pump head
- ☐ Fix the suction and pressure hose at the pump head
- ☐ Install the stiffener wall
- ☐ Put the suction pipes into the chemical containers
- ☐ Install the front panel
- ☐ Carry out a function test
- ☐ Ventilate the dosing devices

Exchange dosing device Fluidos



Procedures

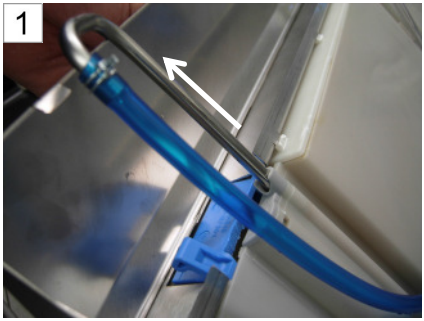
Required material:	Kit Fluidos DT (detergent) Item no. 31 02 597 Kit Fluidos DB (rinse aid) Item no. 31 02 598
Tool:	no special tool required

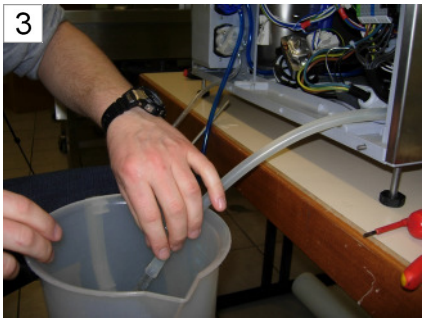
The following steps refer to the detergent dosing device Fluidos DT. However, they also apply for the exchange of the rinse aid dosing device Fluidos DB.

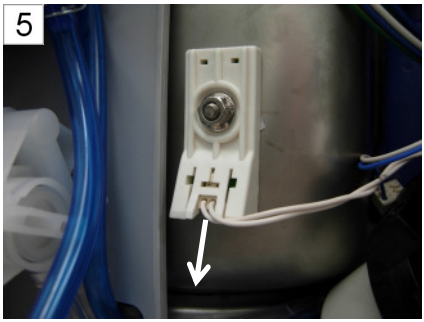
Observe the safety notes on page 7

- ☐ Remove the front panel
- 1 Pull the suction pipes out of the chemical containers
- ☐ Put the suction pipes into a measuring cup with water
- ☐ Activate the dosing device in the actor programme in order to rinse it with water
- 2 Remove the right stiffener wall
- ☐ Pull off suction and pressure hose at the dosing device
- 3 Remove the left stiffener wall
- 4 Unscrew the dosing device
- ☐ Fix new dosing device at the stiffener wall
- ☐ Fluidos DT: Adjust the setting screw to MAX
- ☐ Fluidos DB: Adjust the setting screw to MIN
- ☐ Fix the suction and pressure hose at the pump head
- ☐ Install both stiffener walls
- ☐ Put the suction pipes into the chemical containers
- ☐ Install the front panel
- ☐ Carry out a function test
- ☐ Ventilate the dosing devices
- ☐ Carry out a safety test according to VDE 0701

Exchange integrated water softener







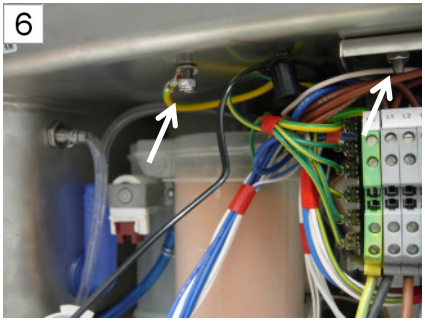
Procedures

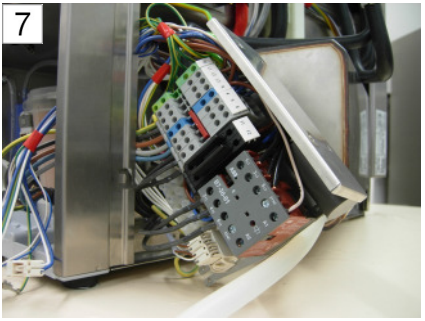
Required material:	Kit softener Item no. 83000420 Item no. 83000421 (Japan)
Tool:	Ring wrench 60003376
Important note:	The machine must be de-installed
Note for UC-S	The procedures also apply for the UC-S. However, it is not required to de-install the boiler

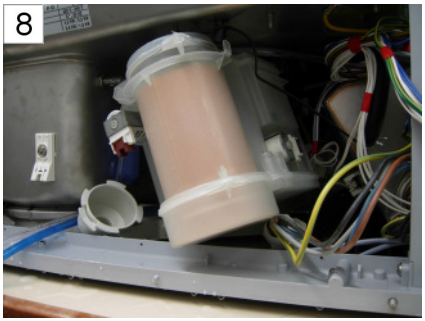
Observe the safety notes on page 7

- [ ] Remove the front panel
- [ ] 1 Pull the suction pipes out of the chemical containers
- [ ] Put the suction pipes into a measuring cup with water
- [ ] Successively activate the dosing devices in the actor programme in order to rinse them with water
- [ ] Drain the tank
- [ ] Switch the machine free of voltage
- [ ] De-install the machine
- [ ] Remove the right side panel
- [ ] 2 Remove the right stiffener wall
- [ ] 3 Completely drain boiler
- [ ] 4 Remove the left stiffener wall together with the dosing devices
- [ ] Pull off the pressure hoses off the dosing devices
- [ ] Pull off the plug of the dosing devices
- [ ] 5 Pull off the thermo sensor of the tank
- [ ] Unplug and de-install the drain pump

Exchange integrated water softener (continuation)







Procedures (continuation)

- [6] Unscrew the terminal block and grounding cable
- [ ] De-install right flute of the strike plate
- [7] Sideways, unscrew the boiler with the terminal block out of the machine
- [ ] Open the machine door
- [ ] Remove lower rotating wash field
- [ ] Unscrew the fastening nut of the water softener
- [ ] Pull off all cables and hoses at the water softener
- [8] Take the water softener out of the machine

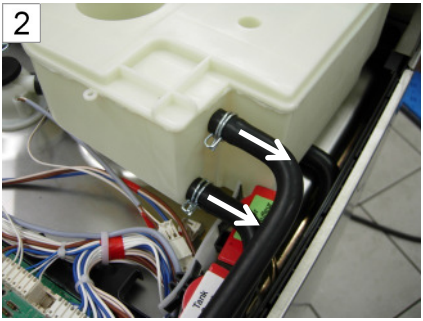
Installation of the new water softener

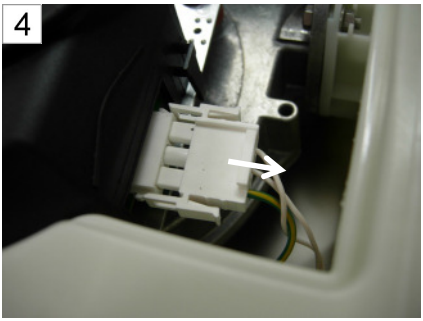
The installation is carried out in reverse order. At the same time use a new o-ring seal.

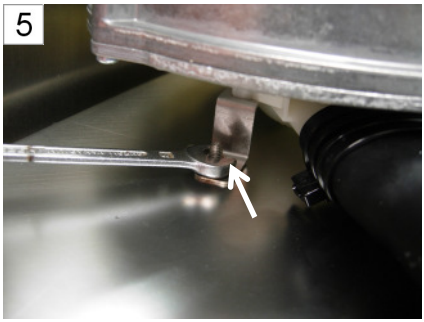
After the assembly:

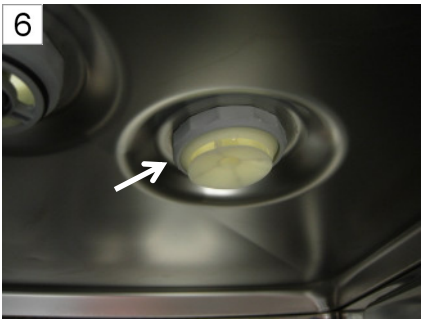
- [ ] Carry out a function test
- [ ] Ventilate the dosing devices
- [ ] Carry out a safety test according to VDE 0701

Exchange heat exchanger / radial fan









Procedures

Required material:	Kit heat exchanger Item no. 30 000 190 and / or Kit radial fan Item no. 30 000 189
Tool:	Ring wrench 60003376
Important note:	The machine must be de-installed

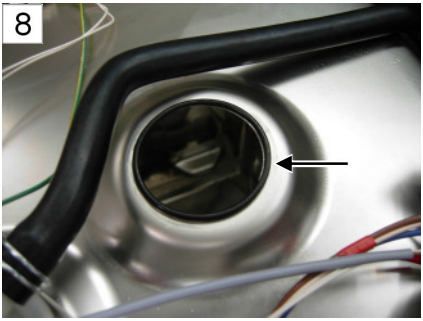
Observe the safety notes on page 7

- [ ] De-installed the machine
- [ ] Pull forward the upper cover plate
- [ ] 1 Pull off the bus cable that is attached to the Master
- [ ] Pull off the grounding cable; remove the cover plate
- [ ] 2 Pull off the hoses on the right of the heat exchanger
- [ ] 3 On the riser, pull off the hose attached to the heat exchanger
- [ ] 4 Pull off the plug on the motor
- [ ] 5 Unscrew the fastening of the motor
- [ ] 6 Unscrew the fastening nut of the heat exchanger
- [ ] Lift the heat exchanger with motor and turn it

Exchange heat exchanger / radial fan (continuation)

7

8



Procedures (continuation)

7 Cut through the belts on the intake socket and remove the hose

Installation of the new heat exchanger (item no. 30 000 190)

- [ ] Disconnect heat exchanger and radial fan of each other
- [ ] Fix the new heat exchanger with new seal on the radial fan

Installation of a new radial fan (item no. 30 000 189)

- [ ] Disconnect heat exchanger and radial fan of each other
- [ ] Remove the intake socket on the radial fan
- [ ] Fix the intake socket with new o-ring seal on the new radial fan
- [ ] Fix the heat exchanger with new seal on the radial fan

Installation of the complete unit

8 Apply a new o-ring seal

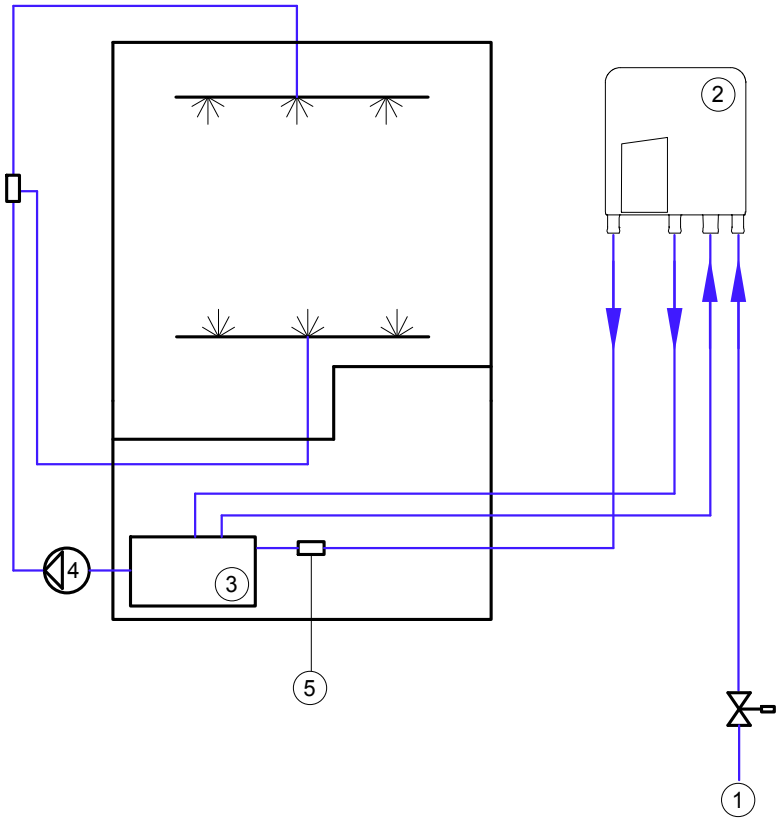
The installation is carried out in reverse order. The hose (picture 7) must be fixed with 2 cable ties to the intake socket.

After the assembly:

- [ ] Carry out a function test
- [ ] Carry out a safety test according to VDE 0701

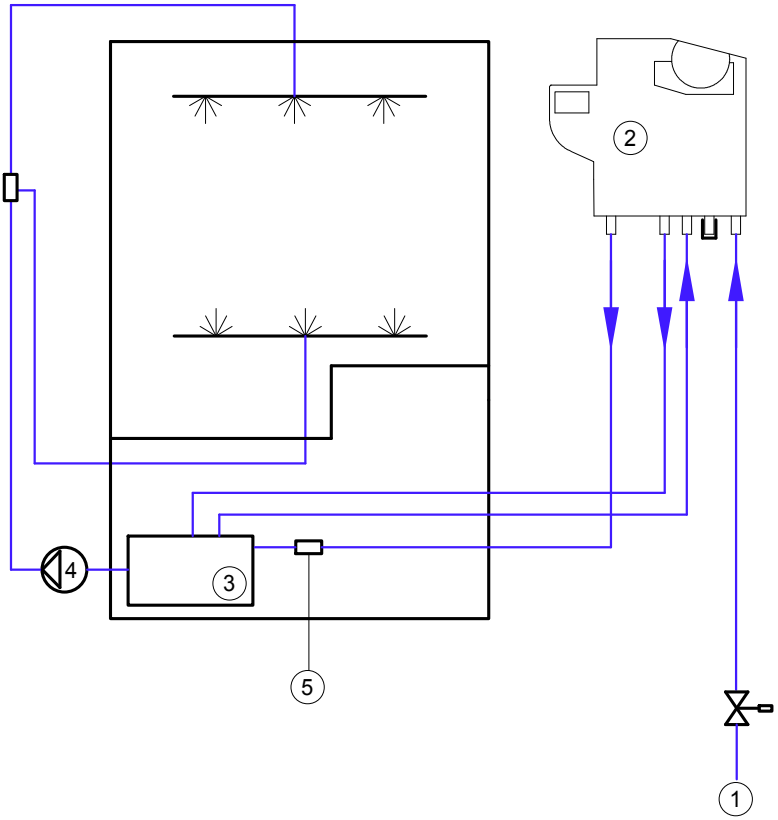
Flow schema

Model: Standard (not for UK, Australia)



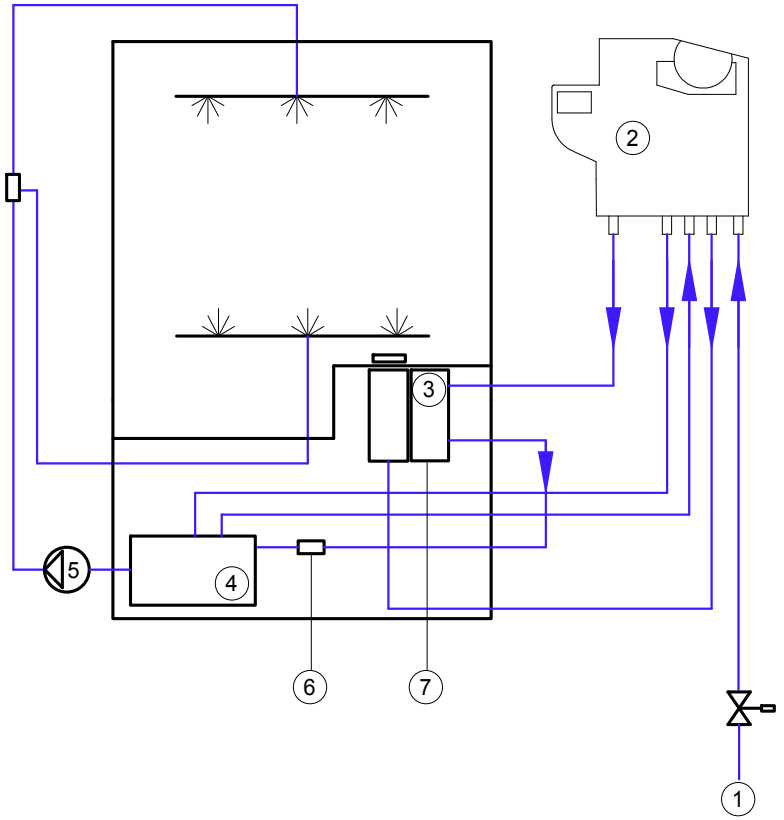
1: Solenoid valve (4 l/min); cold or warm water
2: Backflow protection type "BPD"
3: Boiler
4: Rinsing pump
5: Rinse aid dosing

Model: Standard (for UK, Australia)



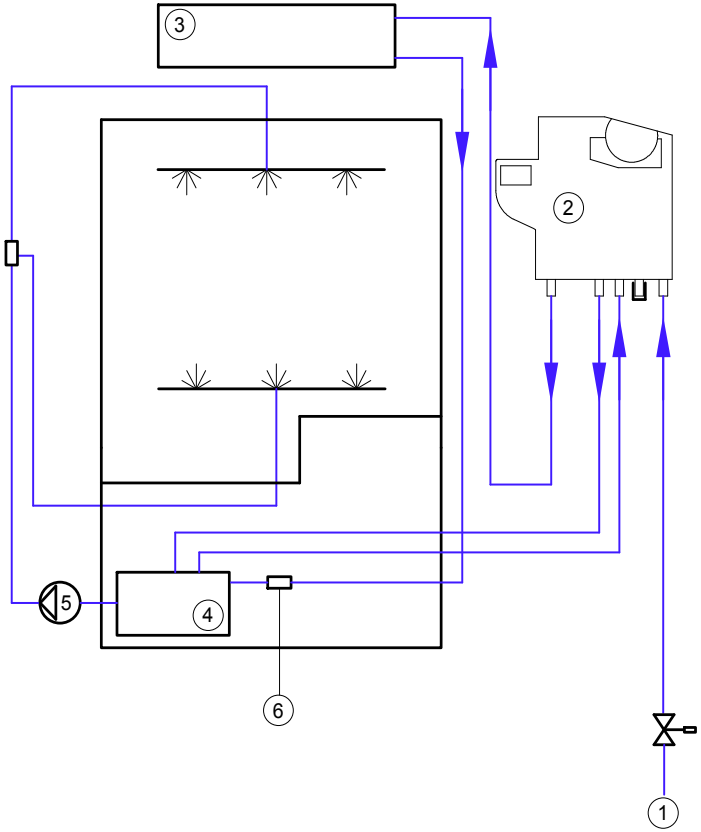
1: Solenoid valve (4 l/min); cold or warm water
2: Backflow protection type "Airgap"
3: Boiler
4: Rinsing pump
5: Rinse aid dosing

Model: integrated water softener



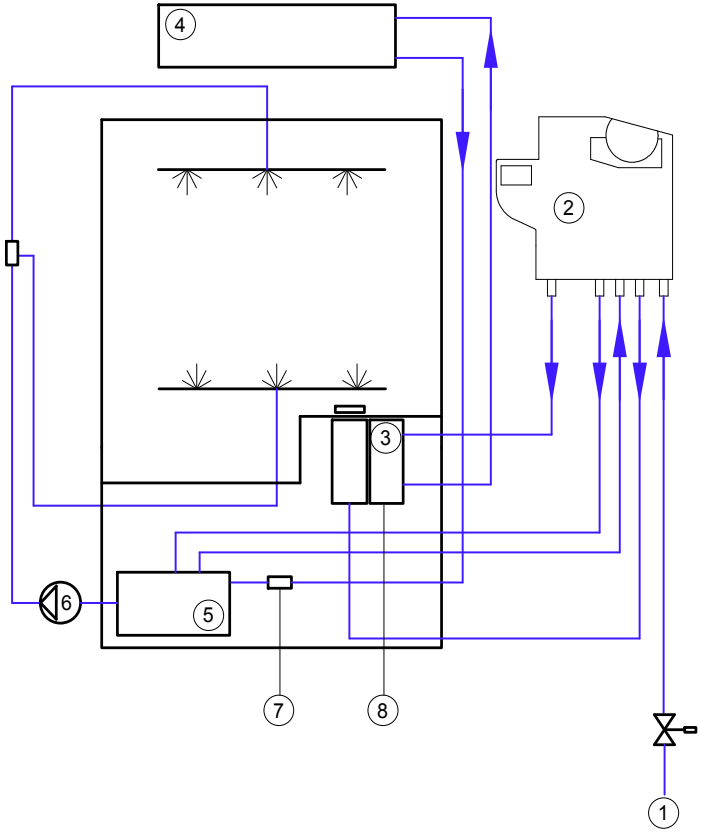
1: Solenoid valve (4 l/min); cold or warm water
2: Backflow protection type "Airgap"
3: Water softener
4: Boiler
5: Rinsing pump
6: Rinse aid dosing
7: Waste water

Model: Energy



1: Solenoid valve (3 l/min); cold water
2: Backflow protection type "Airgap"
3: Heat exchanger
4: Boiler
5: Rinsing pump
6: Rinse aid dosing

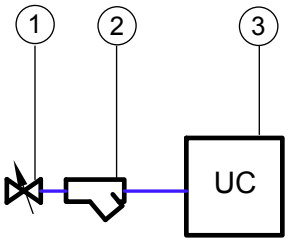
Model: Energy / integrated water softener



1: Solenoid valve (3 l/min); cold water
2: Backflow protection type "Airgap"
3: Water softener
4: Heat exchanger
5: Boiler
6: Rinsing pump
7: Rinse aid dosing
8: Waste water

Options of the water treatment

UC with integrated water softener



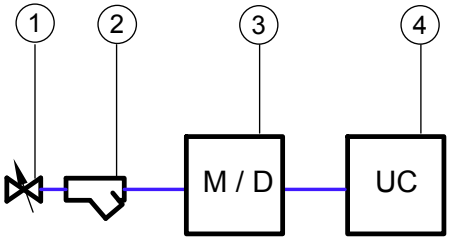
Water supply max. 60°C
Total hardness: max. 30 °dH
Copper concentr.: max. 2 mg/l

Set parameter:
P503 = 2
P505: max. 30

1: Water shut-off valve
2: Dirt trap (included in delivery of the UC)
3: Dishwashing machine UC Series

UC with upstream water softener

(MonoMatik / DuoMatik)



with MonoMatik:
Water supply: max. 50 °C
Total hardness: max. 40 °dH
Copper concentr.: max. 2 mg/l

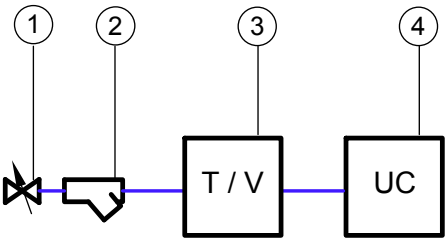
with DuoMatik
Water supply: max. 60°C
Total hardness: max. 40 °dH
Copper concentr.: max. 2 mg/l

Set parameter:
P503 = 0

1: Water shut-off valve
2: Dirt trap (included in delivery of the UC)
3: MonoMatik or DuoMatik
4: Dishwashing machine UC Series

UC with upstream desalination

(TE 15 / TE 20 / VE 15 / VE 20)

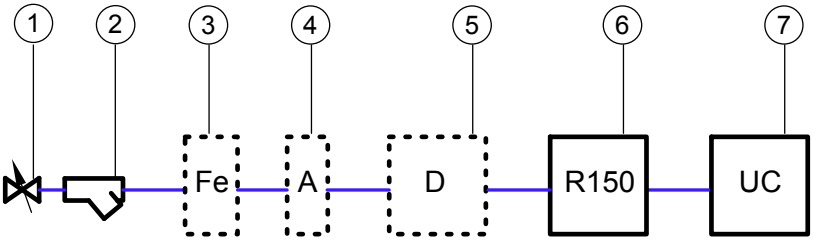


Set parameter:
P503 = 1
P511: max. 999 (99.9 m³)

1: Water shut-off valve
2: Dirt trap (included in delivery of the UC)
3: TE 15 / TE 20 (partial desalination); VE 15 / VE 20 (complete desalination)
4: Dishwashing machine UC Series

UC with upstream reverse osmosis

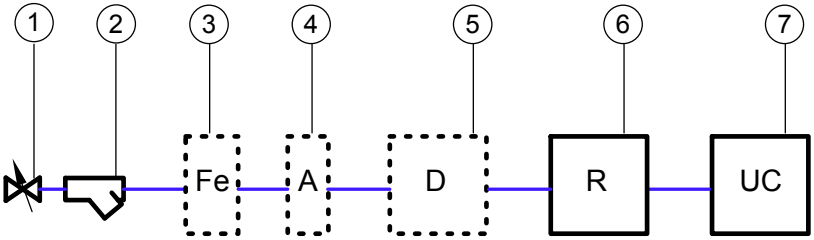
(RoMatik 150)



1: Water shut-off valve
2: Dirt trap (included in delivery of the UC)
3: Desalination filter (optional)
4: Activated carbon filter (optional)
5: Water softener DuoMatik (optional)
6: RoMatik 150 (reverse osmosis)
7: Dishwashing machine UC Series

UC with upstream reverse osmosis

(RoMatik 160, 210, 420)



1: Water shut-off valve
2: Dirt trap (included in delivery of the UC)
3: Desalination filter (optional)
4: Activated carbon filter (optional)
5: Water softener DuoMatik (optional)
6: RoMatik 160 / RoMatik 210 / RoMatik 420 (reverse osmosis)
7: Dishwashing machine UC Series

Requirements for a good cleaning result

The "Sinner circle" describes the effective impacts in the cleaning process. These can be divided into 4 factors:

Orient yourself to the 4 factors of the "Sinner circle" when you are looking for the cause of a bad cleaning result.

Factor chemicals

Possible causes for a bad cleaning result are:

1. The detergent does not match the purpose
2. The rinse aid does not match the purpose
3. Dosing amount (detergent / rinse aid) too low
4. Dosing device (detergent / rinse aid) does not work (electrically / mechanically)
5. Dosing hose (bended, not ventilated, torn, crystallised detergent)
6. Storage container (detergent / rinse aid) empty or interchanged
7. Detergent crystallised in storage container

Factor mechanics

Possible causes for a bad cleaning result are:
1. Contaminated or clogged nozzles
2. Contaminated or clogged filter system
3. Wrongly set parameters (e.g. too low pump pressure)
4. Blocked or worn pump wheel
5. Wrong choice of rack
6. Inadequate loading of rack
7. Foam formation (e.g. due to the use of manual washing-up liquid)

Factor time

Possible causes for a bad cleaning result are:
1. Wrong programme selected
2. Wrongly set parameters

Factor temperature

Possible causes for a bad cleaning result are:
1. Defective heating element in the tank or boiler
2. Wrongly set parameters
3. Defective temperature sensor on the tank or boiler

Additionally, the water quality plays an essential role when a perfect cleaning result is intended to be reached. The kind of water treatment must be adapted to the dishes (▶ pages 39 to 41).

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